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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner	:	Vincent Millin
Group Art Unit	:	332
Applicants	:	Ravi Prasad et al.
Serial Number	:	122,760
Filed	:	November 19, 1987
For	:	PROCESSING AND APPRATUS FOR THE SEMICONTINUOUS EXTRACTION OF NICOTINE FROM TOBACCO

New York, New York
September __, 1989

Hon. Commissioner of Patents
and Trademarks
Washington, D.C. 20231

AMENDMENT

Sir:

Applicants request that the Examiner consider this amendment together with the amendment filed June 30, 1989.

Kindly amend the application as follows:

IN THE SPECIFICATION

Page 1, lines 14-15, delete "nicotime" and substitute therefor -- nicotine --.

Page 3, line 6, delete "entrapment" and substitute therefor -- extraction --.

IN THE CLAIMS

Claim 17, line 1, delete "9" and substitute therefor -- 59 --.

Claim 27, line 4, delete "acqueous" and substitute therefor -- aqueous --.

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Claim 29, line 1, delete "20" and substitute therefor -- 61 --.

Claim 36, line 1, delete "34" and substitute therefor -- 62 --.

Claim 39, line 1, delete "37" and substitute therefor -- 64 --.

Claim 42, line 1, delete "40" and substitute therefor -- 71 --.

Claim 45, line 1, delete "43" and substitute therefor -- 73 --.

Claim 50, line 1, delete "49" and substitute therefor -- 80 --.

Claim 56, line 1, delete "55" and substitute therefor -- 87 --.

Please add the following claims:

57. The method of claim 1 wherein the solvent contains one or more additional solvents, co-solvents or additives.

58. The method of claim 9 wherein the solvent contains one or more additional solvents, co-solvents or additives.

59. The method according to claim 9 wherein the entrapment material is selected from the group consisting of tobacco, tobacco stems, tobacco plant products which have been treated with an acid, and cocoa shells.

60. The method of claim 20 wherein the solvent contains one or more additional solvents, co-solvents or additives.

61. The method according to claim 20 wherein the entrapment material is selected from the group consisting of

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tobacco, tobacco stems, tobacco plant products which have been treated with an acid, and cocoa shells.

62. The apparatus of claim 34 wherein the solvent is selected from the group consisting of carbon dioxide, argon, SF_6, N_2O, a lower hydrocarbon and a lower halogenated hydrocarbon.

63. The apparatus of claim 34 wherein the solvent contains one or more additional solvents, co-solvents or additives.

64. The apparatus of claim 37 wherein the solvent is selected from the group consisting of carbon dioxide, argon, SF_6, N_2O, a lower hydrocarbon and a lower halogenated hydrocarbon.

65. The apparatus of claim 37 wherein the solvent contains one or more additional solvents, co-solvents or additives.

66. The apparatus according to claim 37 wherein the entrapment material is selected from the group consisting of carbon, silicon, alumina, magnesium silicate and ion exchange resins.

67. The apparatus according to claim 37 wherein the entrapment material is selected from the group consisting of water, acid, aqueous acid and aqueous salt solutions.

68. The apparatus according to claim 37 wherein the entrapment material is an aqueous solution containing monopotassium citrate or citric acid

69. The apparatus according to claim 37 wherein the entrapment material is selected from the group consisting of tobacco, tobacco stems, tobacco plant products which have been treated with an acid, and cocoa shells.

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70. The apparatus according to claim 69 wherein the entrapment material is tobacco stems which have been pretreated with monopotassium citrate

71. The apparatus of claim 40 wherein the solvent is selected from the group consisting of carbon dioxide, argon, SF_6, N_2O, a lower hydrocarbon and a lower halogenated hydrocarbon.

72. The apparatus of claim 40 wherein the solvent contains one or more additional solvents, co-solvents or additives.

73. The apparatus of claim 43 wherein the solvent is selected from the group consisting of carbon dioxide, argon, SF_6, N_2O, a lower hydrocarbon and a lower halogenated hydrocarbon.

74. The apparatus of claim 43 wherein the solvent contains one or more additional solvents, co-solvents or additives.

75. The apparatus according to claim 43 wherein the entrapment material is selected from the group consisting of carbon, silicon, alumina, magnesium silicate and ion exchange resins.

76. The apparatus according to claim 43 wherein the entrapment material is selected from the group consisting of water, acid, aqueous acid and aqueous salt solutions.

77. The apparatus according to claim 43 wherein the entrapment material is an aqueous solution containing monopotassium citrate.

78. The apparatus according to claim 43 wherein the entrapment material is selected from the group consisting of tobacco, tobacco stems, tobacco plant products which have been treated with an acid, and cocoa shells.

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79. The apparatus according to claim 78 wherein the entrapment material is tobacco stems which have been pretreated with monopotassium citrate.

80. The apparatus of claim 46 wherein the solvent is selected from the group consisting of carbon dioxide, argon, SF_6, N_2O, a lower hydrocarbon and a lower halogenated hydrocarbon.

81. The apparatus of claim 46 wherein the solvent contains one or more additional solvents, co-solvents or additives.

82. The apparatus according to claim 46 wherein the entrapment material is selected from the group consisting of carbon, silicon, alumina, magnesium silicate and ion exchange resins.

83. The apparatus according to claim 46 wherein the entrapment material is selected from the group consisting of water, acid, aqueous acid and aqueous salt solutions.

84. The apparatus according to claim 46 wherein the entrapment material is an aqueous solution containing monopotassium citrate.

85. The apparatus according to claim 46 wherein the entrapment material is selected from the group consisting of tobacco, tobacco stems, tobacco plant products which have been treated with an acid, and cocoa shells.

86. The apparatus according to claim 85 wherein the entrapment material is tobacco stems which have been pretreated with monopotassium citrate.

87. The apparatus of claim 51 wherein the solvent is selected from the group consisting of carbon dioxide, argon, SF_6, N_2O, a lower hydrocarbon and a lower halogenated hydrocarbon.

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88. The apparatus of claim 51 wherein the solvent contains one or more additional solvents, co-solvents or additives.

89. The apparatus according to claim 51 wherein the entrapment material is selected from the group consisting of carbon, silicon, alumina, magnesium silicate and ion exchange resins.

90. The apparatus according to claim 51 wherein the entrapment material is selected from the group consisting of water, acid, aqueous acid and aqueous salt solutions.

91. The apparatus according to claim 51 wherein the entrapment material is an aqueous solution containing monopotassium citrate.

92. The apparatus according to claim 51 wherein the entrapment material is selected from the group consisting of tobacco, tobacco stems, tobacco plant products which have been treated with an acid, and cocoa shells.

93. The apparatus according to claim 92 wherein the entrapment material is tobacco stems which have been pretreated with monopotassium citrate.

REMARKS

Applicants request substitution of the term "extraction" for "entrapment" at page 3, line 6 of the specification. This amendment is supported in the specification at page 2, lines 22-31; page 7, lines 3-27; page 7, lines 35-37 to page 8, lines 1-5 and is not new matter.

The embodiments of the invention referred to in the cited portions of the specification collectively refer to a method and apparatus for extraction of nicotine from tobacco wherein extraction solvent, which is essentially depleted of

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nicotine, passes through an extraction vessel containing tobacco (extraction material) at the first end of an extraction flow system. The solvent, after passing through the first extraction vessel, passes through one or more additional extraction vessels containing additional tobacco (extraction material) and exits from the second end of the extraction flow system. The nicotine-rich solvent which exits from the second end of the extraction flow system circulates through an entrapment flow system which removes nicotine from the solvent. The nicotine depleted solvent may then be recirculated back through the first end of the extraction flow system.

When the concentration of nicotine in the tobacco present in the vessel at the first end of the extraction flow system reaches a desirable level the tobacco is removed. Fresh unextracted tobacco may simultaneously be added to the second end of the extraction flow system and the process repeated.

It is evident from the above, that the tobacco (extraction material) which was initially in the vessel at the second end of the extraction flow system eventually becomes the extraction material at the first end of the extraction flow system. It is further evident that the material at the first end of the extraction flow system may therefore be partially extracted material. In view of the above, applicants' amendments to the specification to substitute extraction material for entrapment material is not new matter. Applicants therefore respectfully request allowance of this amendment.

Claims 57, 58, 60, 62 - 65, 71 - 74, 80, 81, 87 and 88 added to specifically claim certain types of solvents. Claims 57, 58, 60, 63, 65, 72, 74, 81 and 88 refer to solvents which include mixtures of solvents, or solvents containing additives or co-solvents. The specification supports claims to such

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solvents at page 10, lines 7-9. Claims 62, 64, 71, 73, 80 and 87 refer to various extraction solvents having capacity for nicotine in both their liquid and gaseous phases. The claimed solvents are supported in the specification at page 9, line 31 - page 10, line 7.

Claims 59 and 61 have been added to claim the additional entrapment materials stated at page 10, lines 34-37 of the specification in the methods of claims 9 and 20, respectively. Claims 17 and 29 which relate to entrapment materials which are tobacco stems which have been pretreated with monopotassium citrate have been amended to respectively depend from claims 59 and 61 which include tobacco stems as one of the entrapment materials claimed.

Claims 66-70, 75-79, 82-86, and 89-93 respectively claim entrapment materials for use with the several apparatuses of claims 37, 43, 46 and 51. The entrapment materials are supported in the specification at page 10, line 27 - page 11, line 4.

Applicants request that the Examiner consider the above remarks and allow the claims now pending in this application.

Respectfully submitted,

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